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Mapping the Policy Process in Nigeria

Examining Linkages between Research and Policy

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ABSTRACT

How research contributes to the policy process in developing countries in general, and in Nigeria more specifically, is not well understood. Yet such understanding is a critical part of doing effective policy research. This has become especially critical for the International Food Policy Research Institute (IFPRI), which has set up a country office for policy research in Nigeria. A key challenge for IFPRI, and other research organizations in the country, is how to better integrate research results into policy and communicate research results to Nigerian policymakers.

To gain some useful insights into how research does, or does not, influence policy in Nigeria, we examined a case involving the process leading up to the adoption in 2006 of Nigeria's National Fertilizer Policy. Rather than focusing on how research influences policy in general, examining a particular policy allowed us to trace the actual policy process that took place, the actors involved, and the types of links and interactions between them.

A diverse group of stakeholders (government, donors, the research community, farmer organizations, and the private sector) undoubtedly debated the content of the fertilizer policy. Thus, its successful formulation and adoption offered a useful opportunity to examine how it came about in spite of competing vested interests (both for and against it) and what role, if any, research-based information played in developing it. The policy covered some highly contentious political issues, most prominently the issue of privatization of the fertilizer sector in place of the large-scale and long-standing subsidy program. How the actors engaged and appeased people with vested interests who would normally oppose the policy, and the degree to which research-based information played a role in policy development, is of interest to IFPRI and others engaged in policy research.

To study the policy process that led to the formulation and adoption of the National Fertilizer Policy, we used a network-mapping tool, Net-Map. Drawing on social network approaches, the tool is particularly suitable since it can help highlight the actors and formal and informal interactions involved in the policy process, as well as examine the flows of information from researchers to help determine the pathways of research-based information. In support of the Net-Map method, we also undertook a content analysis of published and grey literature on fertilizer policies in Nigeria in the years prior to the passing of the fertilizer bill. This provided a context for the knowledge-based and policy discussions, who was involved in them, and who funded or drove them.

Keywords: policy processes, Nigeria, social network analysis, Net-Map, fertilizer

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1. INTRODUCTION

How research contributes to the policy process in developing countries in general, and in Nigeria more specifically, is not well understood. Yet such understanding is a critical part of doing effective policy research. The ultimate aim of policy research is to have an impact on policy. Donors are generally interested in assessing the policy impact of the research they fund, often requiring such assessments. However, making the link between policy research and policy is not straightforward without an understanding of the underlying policy process and how policy research plays a role in that process.

Using research to drive policy has become especially critical for the International Food Policy Research Institute (IFPRI), which has set up a country office for policy research in Nigeria. A key challenge for IFPRI, and other research organizations in the country, is how to better integrate research findings into policy and communicate research results to Nigerian policymakers. This requires a deeper understanding of policy processes in Nigeria—in particular, how to interact with policymakers, what information they will use and in what form, and with whom to establish interactions. This case study explores those questions, to enable IFPRI's Nigeria Strategy Support Program to link more effectively its research results with policymaking in Nigeria, especially those related to agriculture and rural development. More specifically, it examines what actors and conditions help promote a more prominent role for research in contributing to the policymaking process. The findings add useful insights to the more general literature on the role of research in policymaking in developing countries.

Nigeria offers a useful example because it is a developing country that has sufficient capacity for research but lacks strong ties between research and policymaking. To gain some useful insights into how research does, or does not, influence policy in Nigeria, we chose to examine a case involving the process leading up to the adoption in 2006 of the National Fertilizer Policy for Nigeria. Rather than focusing on how research influences policy in general, examining a particular policy allowed us to trace the actual process of formulation that took place, the actors involved, and the type of links and interactions between them.

The fertilizer policy was an ideal choice because it was formulated recently, and therefore we could easily track the key actors in the process. It was also useful because of its relevance and importance for agriculture and rural development, which is IFPRI's primary field of expertise, and ultimately, its effect on the welfare of millions of Nigerian smallholder farmers. Finally, as a hotly debated issue among a diverse group of stakeholders (government, donors, the research community, farmer organizations, and the private sector), its successful formulation and adoption offered a useful opportunity to examine how it came about in spite of vested interests for and against it, and what role, if any, research-based information played in its drafting. The policy covered some highly contentious political issues, most prominently the issue of privatization of the fertilizer sector in place of the large-scale and long-standing subsidy program. How the actors engaged and appeased individuals with stakes who would normally have opposed the policy, and the degree to which research-based information played a role in this, is of interest to IFPRI and others engaging in policy research.

To study the policy process that led to the formulation and adoption of Nigeria's National Fertilizer Policy we used a network-mapping tool, Net-Map (Schiffer and Waale 2008). Before we delve into the methodology, this paper first reviews the general literature on the research-to-policy divide, also focusing attention on the Nigerian context. This is followed by a presentation of the Net-Map approach for analyzing the policy process. Next, we discuss its application to analyzing the formulation and adoption of the National Fertilizer Policy. Results from the analysis are then presented and discussed, followed by a summary of key findings and their implications in the concluding section.

The Role of Research in the Policy Process

Although there is a significant body of literature that examines the role of research in policymaking, very little empirical work has been undertaken within the context of developing countries and Nigeria in particular. Exceptions are the work by the ***International Development Research Centre*** and the ***Overseas Development Institute*** (Ayuk and Marouani 2007; Young 2005) and the broader analysis of the effectiveness of knowledge systems for sustainable development by Harvard University researchers (Cash et al. 2003). What is clear from this literature is the shared conclusion that examining the influence of research on policy in developing countries requires a good understanding not only of the underlying political context but also of the actors involved in the policy process, their belief systems and viewpoints, the types of linkages established across them, and the manner in which the knowledge products are generated, packaged, and shared. Vested interests among a few powerful elite, corruption, and external influences also play distinctive roles in many countries (Juma and Clark 1995). The main difficulty is gaining a better understanding of the policy process itself, and how evidence-based information can play a role in it.

A Review of Theory

By definition, a policy process is the manner in which policies are decided on: a process can involve many actors (individuals and organizations) and is defined by the local (and sometimes external) political, social (cultural and belief systems), and institutional realities (bureaucratic structures and capacities) within which it operates. More generally, how research is embedded in policy processes has been examined from a number of perspectives. Keeley and Scoones (1999) describe at least three distinctive perspectives: (1) a linear and logical approach; (2) an iterative, muddling through, and incremental approach; and (3) an approach centered more on discourse. Underlying these perspectives are assumptions about the types of relationships between the actors involved—from government, research community, and private sector to civil society. The linear and logical approach assumes policy decisions follow a simple linear process of planning, implementation, and evaluation. In contrast, the iterative and even the discourse-oriented perspectives assume an incremental and complex process of policy formation and implementation. The discourse-centered version goes further by introducing dynamic processes involving policy networks and policy narratives (Nielson 2001). Both assume a more bottom-up and participatory policy process typically found in more democratic or pluralistic societies. Altogether, the three broad perspectives provide a useful framework from which various theoretical models have emerged in the literature to explain the weakness or absence of links between research and policymaking in general.

The simple linear perspective has been proven unrealistic for many reasons. It assumes that researchers have sufficient access to full information in determining the best policy option. It also assumes that policy research is purely objective, unaffected by the political and value-system beliefs of individual researchers and organizations (for example, donors) involved. Decisionmakers, on the other hand, are assumed to be easily persuaded, so long as the evidence is credible. The linear approach ignores the political context and the many competing demands within which real-world policymaking processes operate (Court and Young 2003). Rather than proceeding in a logical or linear manner, policymakers typically muddle through policy processes in a pragmatic fashion—compromising policies under competing demands, for example, and in ways that satisfy rather than maximize policy goals. As new information and realities become evident, and as policy paradigms shift, policymakers will gradually accommodate those (Stone 2002).

More realistic viewpoints, such as the "bounded rationality," "satisficing," "iterative," "incrementalist," "muddling through," and "policy paradigm" models (Lindblom 1980; Stone 2002; Omamo 2004), accept the complexity of the policy process with research playing only a minimal role. Moreover, policymakers are not simply passive recipients of information, but rather receive research-based information in the context of their own agendas (Garrett and Islam 1998). In other words, they

make use of available resources to advance their own agendas and shift policy discussions to a setting where they have greater control over resources. Grindle and Thomas (1991) explain that policymakers are looking to expand their "policy space," or widen their range of feasible policy options. Receiving information from researchers, and from other outside interest groups, is one way in which policy makers can come to understand how to expand their policy space. Although the policy process depends on political realities and a combination of many other factors, it is still considered rational in Grindle and Thomas' framework**.**They assert that the main challenge facing policymakers is that they have very limited time and capacity to seek and use research. Research is seen as objective and apolitical. The difficulty in bridging the two is typically attributed to a failure to maintain close interactions between the two communities to keep up a constant flow of information and ideas into the policy process.

Recognizing the rather imperfect and indirect use of research outcomes in policymaking, other authors adopt a more "enlightened" perspective that assumes that research feeds into the policy process over time through discourse and learning. This perspective includes such models as the "knowledge utilization," "enlightenment," "policy narratives," and "social network" models (Weiss 1977; Stone 2002; Lindquist 2001). Knowledge is regarded as cumulative, as a dynamic learning or "enlightenment" process wherein research will have a more indirect policy impact, and then only over time and through the influence of many other actors involved (the media, interest groups, the research community, government, and so on.). In other words, research findings eventually become important and alter the perspectives of policymakers as a desire for change in the political arena, including the influence of other actors, increases with more knowledge about what works and what does not. However, as in the rational model, knowledge is still viewed as purely objective.

The recognition of many more players, especially civil society, affecting the policymaking arena has led to an increasing focus on social network models. In the general literature, these include the concepts of advocacy coalitions, discourse, and epistemic communities (Stone 2002). Such perspectives have come to the forefront in developing countries as many more countries are increasingly relying on participatory and democratic processes in the development of policies. A good example is the formulation of poverty reduction strategy papers with the involvement of a broader network of stakeholders. The emphasis in such models is on the power of ideas—whether based on tacit or explicit knowledge, or both—and the deals that are struck among different and diverse actors (Keeley and Scoones 1999; Sabatier and Jenkins-Smith 1993; de Vibe, Hovland, and Young 2002).

The "advocacy coalition" approach, in particular, argues that the type of research that is eventually undertaken and used in policy processes is primarily influenced by the ideas of dominant and competing advocacy coalitions of individuals and organizations (Sabatier and Jenkins-Smith 1993). In this framework, a broad array of actors who share similar views and core beliefs—interest groups, think tanks, media, and so on.—play an especially important role while research still plays a minimal role. In other words, each coalition or epistemic community has its own strong viewpoint about the policy problem at hand and the instruments needed to address it, and each respective coalition will use research findings that support its position to further its interests. In this sense, such advocacy coalitions are focused more on engaging in a policy discourse that reflects the specific views and interests of many actors than on knowledge, per se.

The focus on actors evolves out of the human social sciences and adds a new dimension to the role of research in the broader frameworks of policy processes discussed so far. Drawing on theories of actor networks, epistemic communities, and policy entrepreneurs, there is greater attention given to understanding social relations and individual-level interactions in how research interacts with the policy process (Keeley and Scoones 1999). Actor network theory focuses on the details of how both individuals and organizations develop networks and how that relates to influencing the research being generated within such networks and the influence it has on policy outcomes. It highlights the complex patterns of both formal and informal interactions between different actors in the policy process. Closely related to actor network theory, social network analysis is a technique used to determine the structure of linkages between individual actors and organizations in a network. The concept of epistemic communities describes the bringing together of experts who share common beliefs and disciplines as a type of

knowledge elite—although often ad hoc—as they seek to inform a particular policy issue. The concept of policy entrepreneurs is more about actors who take the time to advocate their views, blocking or promoting particular viewpoints in the policy process.

From Theory to Practice

The many perspectives on the policy process and the role that research plays within it help to provide theoretical explanations for why there is an inherent difficulty in bridging the research and policy divide. As one gains a better understanding of the complexities of the policy process itself, which is unique to each country, it becomes a little more apparent how research can play a role. The important "how" question is not simply about how to improve the transfer of research into policy and vice versa, but more so about understanding the peculiar conditions under which links between the two can be made more effective—the political context, bureaucratic structures and institutions, interest groups, actor networks, types of interactions and influences, value systems, and so forth..

Consequently, a growing body of literature has begun to pay more attention to determining the conditions that can help reduce the difficulties associated with promoting greater use of research in policymaking. One set of literature that addresses this examines a number of institutional and network arrangements that serve important "intermediary boundary" or "brokerage" functions to bridge the research and policy divide (Guston 2001). Another perspective looks more broadly at organizational structures of innovation or "innovation diffusion" and how they affect how both researchers and policymakers can act on research and knowledge (Crewe and Young 2002). Finally, other perspectives focus attention on network theory, highlighting specific areas that either prevent or encourage effective links and interactions among individual actors and organizations on both sides of the research-to-policy divide in the process of formulating policies. The goal is to decipher the complex pattern of interactions in order to determine the existing structure of network linkages between individual actors and organizations.

Taking a network perspective is particularly salient when attempting to understand and influence policy processes because network theory attempts to examine and explain patterns of communication and exchange of information, which are not easily measured but are critical for influencing policy processes (Keck and Sikkink 1998). Viewing the policy landscape as a network allows us to explicitly examine the formal and informal interactions between individuals and organizations. Those interactions—including exchanges of information or funds, ties of friendship, or links of hierarchy—are not distinct from the local context of social, political, and bureaucratic realities. Critical aspects of the context are power relations (of people) and ideas (based on both tacit and explicit knowledge). External influence can also be quite important in the developing-country context. The active role donors play in funding and convening research targeted at policymakers in many African countries is a good example (Young 2005; Omamo 2004).

Finally, most authors agree on one general thing—take a more pragmatic and practical approach and move away from the typical "researcher-as-disseminator" paradigm to a "practitioner-as-learner" paradigm (Omamo 2004; Young 2005; Ayuk and Marouani 2007; Cash et al. 2003). This implies a more participatory approach and a closer engagement among all actors—researchers, policymakers, and practitioners—and in ways that promote the relevance, salience, and credibility of research and ultimately its usefulness (Cash et al. 2003). However, for this to work we still must learn how to apply this idea in a developing-country context, and particularly in Africa. A systematic understanding of policy processes must be developed if research is to become relevant and salient to local social and political realities, and increase its chances of becoming more embedded in the process over time.

The Nigerian Context

The research-to-policy linkages in Nigeria have been generally described as weak (Olomola 2007). A few factors have been cited for the low uptake of research by Nigerian policymakers. The first has to do with the lack of high-quality research. Compared with other African countries, Nigeria is home to a relatively

large number of policy research institutions and think tanks,[2] yet Hansohm (2003) describes those as generally weak and unreliable. This has been attributed to many years of military rule, bad governance, and a high level of corruption, especially in the late 1980s and early 1990s when most Nigerian research establishments suffered from inadequate funding, decay of infrastructure, and a flight of highly qualified academics to Western institutions (CAPPS 2007). The latter—often referred to as "brain drain"—remains a critical challenge facing local research institutes in Nigeria. In 2000, for example, about 36.1 percent of migrants leaving Nigeria were tertiary educated and highly skilled (Institute of Development Studies 2008). Many others find more prestigious work outside of research, working in the private sector or as practitioners for international development organizations, which offer better salaries and working conditions. All these aspects have contributed to low production and poor quality of research output and services.

The second factor is the apparent disconnect between researchers and policymakers. According to Ogunlade (cited in Obadan and Uga 2002, pg. 515), there is little interaction between policymakers and researchers. Thus, meaningful discussion of available research findings, their suitability to policy-related problems, and identification of other policy areas requiring research attention is severely lacking. In some cases, policymakers do not have confidence in research findings, probably due to doubtful methodology or the highly technical language used by researchers. Closely related is the problem of mutual suspicion between the researchers and policymakers. Policymakers have often been alleged to hoard information needed for policy research, and researchers have been accused of abusing classified information divulged to them. The only aspect of a linkage between research and policy is the dissemination of research findings, but most policymakers hardly attend dissemination seminars and workshops, or they send their representatives with little or no caliber to contribute to policy debate (Olomola 2007).

The third factor can be viewed as the result of the first two. Obadan and Uga (2002) suggest that the insufficient use of available research-based information in public policymaking leads to disenchantment by policy researchers. In this context, policy researchers may redirect their efforts toward research that does not necessarily address social and development problems but rather adds to their publications or contributes to an ongoing intellectual debate. Supporting that theory, a recent study conducted to ascertain causes of poor research output among Nigerian academics identified the lack of use of research findings by policy practitioners as most critical (Egwunyenga 2008).

However, the return to civil rule in 1999 ushered in a stronger role for research in policymaking by facilitating the inclusion of more academic and policy expertise into the policy process. Beginning with President Obasanjo's administration, from 1999 to 2007, technocrats with sound academic backgrounds and strong advocacy for the inclusion of research output in the policymaking process formed part of the cabinet. Some policy programs initiated by Obasanjo included the Nigerian development agenda, the National Economic Empowerment and Development Strategy, the establishment of the Institute for Peace and Conflict Resolution (a government think tank), and the annual presidential strategic retreat. All these initiatives received substantial inputs from policy experts, thereby providing a link between academic researchers and policymakers. Even though this effort has started creating an interface between researchers and policymakers, research has not been directly used for policymaking largely due to poor political will and limited political value of research in the policy process (CAPPS 2007). As a way of bridging the gap between policy and practice, there is need for further research to develop and facilitate effective strategies for participatory, transparent, and evidence-based policymaking in Nigeria.

There are a few examples in the literature of campaigns to have research results feed into policy processes in Nigeria. In a study that examined Nigeria's adoption of the Economic Community of West African States common external tariff, Ajayi and Osafo-Kwaako (2006) examined the production of

[2] Apart from university-based research institutions, Nigeria has 66 governmental research institutions and several other non-governmental organizations that conduct research as part of their work (CAPPS 2007). In addition, four government-run policy research institutes have been established to produce objective and relevant research outputs mostly in social sciences to aid policymaking.

knowledge on trade policy issues, and the channel through which such knowledge was disseminated to influence the policymaking community. They found that limited use was made of research in the policy process; policy elites tended to rely on in-house data sources from the Central Bank of Nigeria, the National Bureau of Statistics, and the National Planning Commission rather than engaging with and using the information from the broader research community.

In another study, Court and Young (2003) analyzed the results of a coalition that organized for policy action around the development of the Nigerian Shiroro Dam. In this example, stronger ties seem to have been well established early on between research and policy advocacy—ultimately leading to policy impact. They describe how a nongovernmental organization, the Community Action for Popular Participation, decided to undertake a study examining the problems within dam communities to establish firmer ground for advocacy around such problems. It developed a community of actors that worked together to develop research-based publications to advocate for policy reforms. The key lesson learned here was that research impact relied on the development of an advocacy coalition together with research credibility. The latter was maintained by establishing a clear line of accountability regarding the source of information.

These lessons are illustrative of the range of experiences and challenges with regard to the role of research in policymaking in Nigeria. Research can influence policy when the following conditions are met: sufficient coalition building and linkages are established early in the process and across a diverse group of actors keenly motivated to influence a particular policy; the political context of the issue at hand is very policy relevant; there is sufficient quality and credibility in the research being undertaken; and there is a degree of transparency in the policy process itself.

2. STUDY METHODOLOGY: THE NET-MAP APPROACH

To study Nigeria's fertilizer policy process and the role evidence played in it, we drew primarily on network theory and advocacy coalition perspectives to highlight formal and informal interactions among key actors in the policy process, their degree of influence and hierarchical linkages, the patterns of communication and exchange of information, and the overall political context under which the process took place. From a methodological perspective, social network analysis, or SNA, approaches are especially suitable in this regard (Hanneman and Riddle 2005) as they can help highlight the formal and informal ties that exist across actors involved in a policy process. SNA explains the achievements of individual actors but also the developments within groups of people or organizations by looking at the structure of linkages between actors. Instead of analyzing the characteristics of an individual or the formal hierarchical structure of an organization, SNA focuses on the networks of actors.

In this study, we use Net-Map, a tool that draws on the SNA approaches as described in Schiffer and Waale (2008). However, the tool goes further by including principles of power mapping (Schiffer 2007) and stakeholder analysis approaches (Holland 2007.). Net-Map is a participatory research method, which is unique in its ability to illustrate complex connections. The process itself is valuable for the respondents, as they are able to gain a more concrete understanding of the network to which they belong. The visual and tangible interview methodology enables concrete discussion of complex and even sensitive topics. Thus, the qualitative information derived from this process is in-depth compared to the time invested. In addition, various techniques for analyzing the resultant data add additional value.

Although general concepts of analyzing formal and informal linkages prove very helpful in understanding complex social realities, the standard approaches to social network research pose a number of problems for researchers in the development field. Unlike other common research methods that depend on random sampling, network methods focus on relations among actors, and thus it would not be meaningful to sample the actors independently. Rather, network approaches tend to study whole populations by means of census, rather than by sample. In cases where the population is too big to do a census, snowball methods or purposeful sampling are recommended; however, these limit the usefulness of some of the quantitative network analysis procedures.

One common approach to data collection in SNA is to identify the actors by using a name generator (Hogan et al. 2007), which is followed by a list of questions asking for each possible pair of nodes (actors), whether or not they are linked. This is done either on paper or via computer applications (Wasserman and Faust 1994). Depending on the number of actors, this can be a long and tiring process (Hogan et al. 2007) without learning the effect for the respondent.

According to Hanneman and Riddle (2005), social network analysts often analyze networks with boundaries that are already known and predefined by the population itself (for example, all members of a club, inhabitants of a village, or members of parliament): "Social network studies often draw the boundaries around a population that is known, a priori, to be a network". However, especially if the boundaries of a network are not known a priori (for example, everyone who influenced a policy process), it might be more beneficial to use participatory approaches, which allow the interviewees to define the network boundaries during the research. If the reach of a network is not known a priori, researchers start by asking name-generator questions (Marin and Hampton 2007) such as, "Who is involved in this activity?" and "Who do you go to for help?"

While we are interested in the actors and their formal and informal linkages, we are also aiming at an understanding of the influence and power the different actors have in this specific process. A common approach to understanding power in social networks is to determine the position of an actor in the network structure by calculating indices such as *betweenness* centrality or *closeness* centrality. Krebs (2004), for example, argues that those actors with the highest betweenness (who are on the closest link between other actors and the highest closeness (who can reach everyone in the network on a short path) will have the most power, as they combine control (betweenness) and access (closeness).

When approaching culturally diverse empirical research situations, however, it is important to test whether such measures are culturally appropriate. Furthermore, we argue, whereas some of an actor's power might come from his or her position in the network, other factors may well exist that also bestow power, such as wealth, intelligence, commitment to a cause, or legal authority. For the analysis of power, Krackhardt (1990) proposes to ask respondents directly how much power network actors have. To address the challenges discussed we expanded the pen-and-paper-based network-mapping approach of Davies (2003) by adding independent measures for the perceived influence (Schiffer 2007). Within the conceptual frameworks of advocacy coalition (Stone 2002; Sabatier and Jenkins-Smith 1993) and policy entrepreneurs (Keeley and Scoones 1999) discussed earlier, a specific emphasis is put on the goals of actors (which can focus on selfish as well as common benefits), as they are seen as the driving forces behind the process.

The different actors in political processes aim at realizing their goals by a variety of means, from debate through mobilizing constituencies to voting, amongst others. Whereas understanding who is involved, how they are linked, and how influential they are is important, for a complete grasp of political dynamics it is crucial to also understand what the goals of the different actors are, which they try to achieve by using their influence in the network.

The Net-Map Procedure and Analysis

The data collection and analysis was undertaken following a number of procedural steps and approaches in the following order: preliminary research and planning for data collection; listing the actors involved; drawing linkages among the actors; capturing information flows; determining influence levels; attributing actor goals; identifying any stumbling blocks and critical actors; and aggregating and interpreting maps. We now review these in more detail.

Preliminary Research and Planning for Data Collection

Before data collection began, we defined the population of study. The population—the network—was made up of those actors who were influential in the process of having the fertilizer policy document developed and approved. This was a network without clear-cut boundaries (unlike the membership of a club or organization), as we included actors with formal and informal influence. A first understanding of the range of the network was gathered through preliminary mappings with staff members of two organizations central to fertilizer development and policymaking: the Federal Fertilizer Department (FFD) and the International Fertilizer Development Center (IFDC). In these meetings we used a name-generator question ("Who influenced the development and passing of the fertilizer policy?") to determine a preliminary list of network members. The actors of the network knew the other actors of the network fully or partially, a priori. The actor list generated and some prior knowledge of the network helped guide a snowballing approach to selecting the interviewees. We did not attempt to survey the entire population, but rather we allowed the known actors to point to other known key actors.

Box 1. Organizations interviewed in mapping process

Government
1. National Programme on Food Security
2. Federal Fertilizer Department
3. National Fertilizer Development Centre, Kaduna
4. Federal Ministry of Agriculture and Water Resources

Research
5. International Fertilizer Development Center
6. Institute for Agriculture Research Abuja
7. National Agriculture Extension and Research Liaison Services
8. National Cereals Research Institute, Badeggi
9. National Root Crop Research Institute, Umudike

Farmers/Civil Society
10. All Farmers Association of Nigeria

Given resource constraints and time, we did not interview representatives from each actor who played a role in the process; rather we identified—from the preliminary list—a diverse range of key experts to interview. The diversity of this group of interview partners helped ensure that the results were not biased toward the view of a specific perspective (for example, that of the policymakers themselves). In particular, we were interested in covering a range of experts to represent the various actors we knew to be involved in the process, including agricultural researchers, academics, bureaucrats, private-sector representatives, and advocacy organization representatives. Twelve expert interview partners were selected and two-hour meetings were set up with each of them. Two eventually withdrew from participating in the meetings, leaving a final sample of 10 key experts from whom data were collected. Because the two actors that withdrew played a minimal role in the process, we were sufficiently confident this did not adversely affect the results of our analysis. Moreover, although a second round of interviews would have been advantageous to capture information from actors identified during the initial round of interviews, such as fertilizer distribution companies and women's associations, we could not do so due to funding and time constraints. The failure to have the second round of interviews with other key stakeholders remains an important limitation in our study. However, because the information gathered from the original 10 actors turned out to be quite consistent, we are quite confident the results of this study are not greatly affected by this limitation. Box 1 lists the final 10 organizations interviewed.

Next, IFPRI's Nigeria-based staff drew a Net-Map of their understanding of the process. This was to determine the baseline understanding of the fertilizer policy process within IFPRI. It also served as a pretest, to ensure that the various components of the methodology were applicable to the situation and would elicit valuable information.

Listing of All Actors Involved

We asked each respondent a name-generator question to determine who made up the network of actors that played some role in the drafting and passing of the policy document—whether it was a supportive role or an obstructive role, and no matter how small. Given that the surveys were given two years after the initial drafting process, respondents' ability to recall could be diminished. However, Freeman, Romney, and Freeman (1987) have shown that recall errors in social network studies are strongly biased toward regular patterns of interactions: this means that most people will not recall correctly whether they interacted with a specific person on a specific date, but will be more reliable in recalling how strongly an actor was involved throughout the process.

It was explained that an actor or stakeholder could be an organization, department, committee, or perhaps an individual. There were often actors within actors, such as an influential individual within FFD, or an influential department, such as FFD, within the Federal Ministry of Agriculture and Water

Resources.[3] To determine whether to separate or aggregate actors, respondents were asked to consider whether they played different roles within the policy process. The actor names were written on actor cards that were posted on a large empty sheet of paper (the network map). When a particularly influential individual existed within a particular department or agency, a mark was added to the actor to denote this.

Drawing Linkages among Actors

SNA is concerned with relations among actors, and, as described by Hanneman and Riddle (2005), it is in selecting linkages that the kinds of relationships that exist are determined. In this study, we drew multiplex networks (more than one kind of link) and determined that the linkages of critical importance to this study were (1) funding, (2) formal command, (3) information, and (4) advocacy.

Respondents were asked to name the ways in which various actors were linked, specifically in the context of the drafting and passing of the policy. Moving from actor to actor, the respondents drew lines of different colors—corresponding to the linkages—from actor to actor.

Capturing Information Flows

In this study, we were primarily interested in research-based information. However, the policy process leading to the drafting and passing of the fertilizer policy did not appear to be influenced by a particular piece of research. Instead, the fertilizer policy—and the process leading to its development—was based on the knowledge and experience of a variety of researchers who all contributed to the process. Preliminary investigation showed that the process brought many stakeholders of rather diverse knowledge and experience into the discussion. We defined research-based information as the accumulated knowledge of researchers involved in the process, whereby they imparted their technical expertise and knowledge base during the formulation of the policy. In this way, the researcher actors fed information into the process through discourse (as in the "iterative" and "enlightenment" theoretical perspectives referred to earlier) as well as directly through their involvement in the formulation of the policy itself (as in the participatory linkages highlighted in Cash et al. 2003). However, information flows were also in the form of sharing ideas and viewpoints, including advocacy, based on tacit or explicit knowledge.

For our purposes, we defined two different types of knowledge and information flows. First, information shared during any informal or formal exchanges of ideas related to the fertilizer policy was considered important. Second, advocacy was also considered important as it described information exchanges targeted specifically at supporting a specific policy outcome. This definition of advocacy was used in order to broaden the meaning from the common concept of an advocacy organization to incorporate two other important forms in our case study: intergovernmental advocacy (among government actors) and researcher advocacy (directly providing *strong* recommendations to government).

Determining Influence Levels

Each actor was assigned an influence level "score" by the respondent as an additional means of capturing elements of the power structure within the network that may not have been captured through the linkages. This also helped pinpoint which kind of link within the multiplex network most strongly determined the influence of actors and answered whether the actors were influential because of formal linkages (such as lines of command) or, rather, informal ones (such as advocacy).

To determine influence, we reminded respondents of the definition of influence and asked them to consider all the types of influence—financial, formal influence (management), communication, and agency/voice—in coming up with the final influence level. Then they were asked to put as many pegs on each actor card as would reflect an actor's level of influence.

Both the formulation and passing of the policy document were of interest to the study, but the actors with the highest influence seemed to be very different in those two stages. Thus, respondents were asked to estimate the influence level of actors in the drafting stage and in the passing stage.

[3] During the development of the fertilizer policy, the ministry was called the Federal Ministry of Agriculture and Rural Development.

Attributing Actor Goals

In the case of the fertilizer policy, some stakeholders had strongly differing views as to whether further privatization—one of the major pillars of the proposed policy—should be a goal. In the preliminary interviews, it became apparent that these different goals (pro or contra privatization) were not merely a matter of opinion but often linked to the material interest of the stakeholder. To better understand the motivation of stakeholders to support or block the policy, we asked interview partners to indicate which actors on the map were for or against privatization.

Stumbling Blocks and Critical Actors

To capture additional information the mapping may not have captured, a few final questions were asked. First, we asked respondents whether there were any "stumbling blocks" throughout the process that stood out. Then, we asked them to pinpoint any actors that stood out as critical to the process—that is, any actor whose support was critical for the success of the initiative or who had the power to break down the process if that actor opposed it.

In Net-Map, an actor may be an individual or an institution. At times, even when the institution is the relevant unit of analysis, key actors exist within the institution that are worth noting. Those instances were recorded on the maps as "critical individuals."

Consolidating and Interpreting Maps

All the results of the maps were consolidated into a single map. That can be done quantitatively by choosing the actors and links that were added by the majority of the respondents and by averaging the relative value of influence attributed to each actor (see Krackhardt 1987 for different options to combine networks into "cognitive social structures"). However, given the small sample size, such a quantitative assessment would not be meaningful. Thus, to capture all the nuanced information attained through the surveys, we summarized the different maps drawn and the qualitative information gathered in the interviews by drawing a condensed influence network map, which took into account the frequency with which actors and links were added and influences were attributed, the degree of involvement in the process of the respondents who added them, their own assessment of the certainty of their information, and the goals and possible biases of the particular respondents that may have affected their responses.

The development of the final map can be described as an iterative process in which we drew our own pre-research perception of the situation, gathered information from a wide variety of actors involved, drew a combined network map based on that information, and finally validated it by presenting and discussing it at a stakeholder forum, involving interview partners and others. The resulting map serves as a visual representation of the policy process and is used subsequently in this paper to illustrate the core actors, bottlenecks, and crucial success factors for the integration of research into policy formulation.

Review of Supplementary Materials

In addition to the information gained from the maps themselves, the Net-Map process enabled general learning to occur on the part of both the respondents and the interviewers. The respondents benefited from the visualization of a complex process, and the interviewers received a wealth of information about the context within which the policy process took place. This information guided the supplementary research method, the review of academic and policy documents, to determine more precisely the flows of research-based information.

Searches of policy documents were undertaken after the interviews for those issues that were under debate throughout the process or those that were in some way contentious. Content analysis was undertaken to determine who was undertaking research, involved in discussions, or funding any of the activities related to the issues under debate.

3. RESULTS

The Net-Map process and supplemental literature review provided useful insights into the political process and context in which the policy was written and passed. Of particular interest, the results provided an explanation for the success of the initiative, an understanding of the interactions and actors involved in the process, and insight into how research-based information played a role in the process and outcome; the results also illuminated some elements of the process that were not successful.

Political Context and Background

Fertilizer in Nigeria has long been a highly charged political issue. It is a critical input for national food security and agricultural productivity, and thus an important political tool for those who control it. The federal government of Nigeria has long been involved in the fertilizer sector through subsidy programs, government-controlled procurement and distribution, and even some government involvement in production and blending. Nigeria has yet to develop a substantial domestic fertilizer industry, relying instead on importation from overseas markets. Typically, the government imports the fertilizer in bulk and contracts out to blending and bagging firms who also deliver the bagged fertilizer to state locations. According to Nagy and Edun (2002), with government contracts, these firms face little risk and have not had to develop fertilizer dealer networks or sell their product on the open market. Thus, there has been little incentive for smaller private-sector dealers to enter the market and become more efficient over time (Nagy and Edun 2002).

Since the establishment of a ministry for agriculture at the federal level in 1967, the promotion of fertilizer and other "green revolution" technologies has been a deliberate federal government policy. Fertilizer importation and distribution has been principally under government control since then. The onset of high fertilizer prices in the 1970s and 1980s led the government to institute subsidies across the board. Federal subsidies rose as high as 90 percent of the total fertilizer price during this period (FFD 2006). According to an FFD (2006) report, this increase was driven by intense pressure from farmers and farmer organizations. Given the importance of farming in Nigeria, fertilizer subsidies are widely seen as a tool for political support. According to one respondent, private financial gains associated with contracting at various levels may also have driven the increase.

A number of efforts were made to reduce the government's role in procuring and distributing fertilizer, beginning with the Economic Stabilization Act of 1982, which focused on reforming expenditures on agriculture and restricting imports of agricultural products and inputs. Then in 1987, under the Structural Adjustment Programme, agricultural input subsidies were meant to be phased out entirely. However, by 1992, they had risen again to 42.7 percent of the national budget (FMARD 2005). In fact, throughout the 1990–1996 period, a virtual government monopoly of fertilizer marketing existed in Nigeria. The government, through imports and through government-owned ports or through the government-owned fertilizer production facilities, procured most of the fertilizer.

The year 1997 brought an abrupt implementation of liberalization policies for fertilizer, followed shortly by a reversal in the same year (Nagy and Edun 2002). The federal government suddenly stopped procuring and subsidizing fertilizer without first developing the proper infrastructure to support the private sector. Many private companies that invested in importing, blending, and distributing fertilizer lost money. Then, in 1999, the government reinstated its procurement and distribution of fertilizer, hurting further those who had invested in it. In spite of the lack of proper planning and inconsistent policies, this does point to the federal government's longtime interest in, if not commitment to, reducing its role in the fertilizer sector.

Development of an Advocacy Coalition

In 2005, the goal of drawing up the National Fertilizer Policy for Nigeria was to provide a comprehensive federal policy that consolidated the government's various policies on fertilizer "into a single internally

consistent whole, and show the interrelationships among the different policy instruments employed" (FFD 2006, pg. i). Presented at the Africa Fertilizer Summit in 2006, the policy document was hailed by attendees as a model for other African countries, generating a positive image of Nigeria's efforts among donors and peers (IFDC and NEPAD 2006).

Leading up to the development of Nigeria's National Fertilizer Policy, the discourse related to fertilizer policy reform was developing. An array of research-based information was being circulated on this topic.[4]

From 2001 to 2004, the International Fertilizer Development Center with funding from the United States Agency for International Development (USAID) implemented the Developing Agricultural Input Markets in Nigeria (DAIMINA) project. Results from policy studies showed the negative impacts of fertilizer subsidies on private-sector participation and on national, state, and local government budgets. In addition, it criticized the lack of use of domestic resources for fertilizer production.

In 2002, IFDC contracted with Joseph G. Nagy and Oluwole Edun[5] to produce a report, funded by USAID, describing a new version of partial liberalization of the fertilizer sector in Nigeria. Although they supported the government's withdrawal from the fertilizer market, they also expounded the benefits of maintaining some fertilizer subsidies in the form of targeted vouchers. Then, in 2005, IFDC, again under the DAIMINA project, piloted a fertilizer voucher program with the Special Programme for Food Security in selected sites in Nigeria (IFDC 2005, 2008). In 2006, the then-director of FFD gave a presentation to FAO reporting favorable results of that program (Chude 2006).

FAO supported a study by FFD describing the socioeconomic issues related to fertilizer in Nigeria. The study was authored by Ayoola (2007) and supported the reform of fertilizer subsidies and the development of agri-input dealer associations (now known as the Agricultural Input Dealers Association) to support private-sector development for the fertilizer sector. The same report supported the implementation of soil testing to ensure proper use of fertilizer and the integrated use of organic and inorganic fertilizers. However, this report was published after the completion of the fertilizer policy; at the time of the drafting of the fertilizer policy this report was circulated in draft form.

In 2003, Ayeni and Ayoola[6] wrote a report supporting the need for regulating fertilizer quality to minimize environmental impact of fertilizer use. Then, in 2004, also stemming from activities related to the DAIMINA project, IFDC worked to develop a fertilizer regulatory policy that was technically validated by national stakeholders and subsequently submitted to and adopted by the National Council on Agriculture but was never submitted to the Parliament for enactment.

In 2005, the federal government of Nigeria issued a policy statement regarding a "new thrust" for agriculture policy that outlined the government's intention regarding fertilizer policy. It hinged on complete privatization and liberalization of the production, distribution, and marketing of the commodity (FMARD 2005). Coincidentally, in that year plans were under way to hold an Africa Fertilizer Summit in Abuja, Nigeria. This high-profile event, spearheaded by the New Partnership for Africa's Development (NEPAD) and organized with IFDC support, provided additional political momentum for the federal government to call for the formulation of a National Fertilizer Policy for Nigeria.

Nigeria's National Fertilizer Policy outlines a program for the development of a well-functioning privatized fertilizer sector, along with social support in the form of fertilizer vouchers. Some key elements of the policy are the following:

1. Promote domestic and private-sector fertilizer production.
2. Promote the private sector to take over domestic marketing, while developing targeted, market-friendly mechanisms for providing fertilizer to poor farmers.

[4] The review of literature on fertilizer issues in Nigeria was not extensive, but it was meant to highlight publications that are directly relevant to or clearly linked in some way to the fertilizer policy drafting process or specific topics covered by the fertilizer policy.

[5] As a former employee of the Ministry of Agriculture and Water Resources, Oluwole Edun played a key role in the very early stages of the fertilizer policy development.

[6] Professor Ayoola was a member of the fertilizer policy steering committee and a key individual in the process.

3. Develop a legal and regulatory framework for the quality control of fertilizer.
4. Place the responsibility of the import and export of fertilizer exclusively in the hands of the private sector.
5. Guard against environmental degradation and pollution from fertilizer use and promote the complementary use of inorganic and organic fertilizers.

Table 1. Relevant reports written in the years leading up to the development of the National Fertilizer Policy

Component of Policy	Report	Year
To promote the domestic fertilizer sector	IFDC (under USAID, DAIMINA project) showed that Nigeria was losing efficiency by not taking advantage of domestic resources for fertilizer production.	2005
To promote privatization and liberalization of fertilizer procurement and distribution	IFDC, funded by USAID, reported on fertilizer sector reform.	2002
	The Federal Fertilizer Department, funded by FAO, wrote a report on the socioeconomic issues related to fertilizer in Nigeria.	2006–2007
Fertilizer vouchers and other mechanisms that support "market-friendly" subsidy administration	Technocrats of the Ministry of Agriculture were contracted by IFDC, and funded by USAID, to develop a confidential report on fertilizer sector reform.	2002
	IFDC (under USAID, DAIMINA project) implemented a fertilizer voucher scheme and reported positive results.	2005
To develop a legal and regulatory framework for the quality control of fertilizer	IFDC (under USAID, DAIMINA project) worked with government to develop an effective fertilizer regulatory system after a policy report showed the need.	2004
To place the responsibility of the import and export of fertilizer exclusively in the hands of the private sector	Federal government of Nigeria issued a "new thrust for agriculture" report.	2005
To guard against environmental degradation and pollution from fertilizer use and to promote complementary use of inorganic and organic fertilizers	The Federal Fertilizer Department, funded by FAO, wrote a report on the socioeconomic issues related to fertilizer in Nigeria.	2006–2007

IFDC[7] and the Federal Ministry of Agriculture and Water Resources' Federal Fertilizer Department[8] spearheaded the process of developing the fertilizer policy. The three people from IFDC and FFD who drove the process referred to themselves as the steering committee. A secretariat made up of researchers and technocrats drafted the fertilizer policy document, which was subjected to the comments and concerns of a broad range of civil society stakeholders. Upon completion in 2006, the National Fertilizer Policy for Nigeria was formally approved by the National Fertilizer Development Committee of the National Council on Agriculture, the Federal Executive Council, and the minister of agriculture.

[7] Two researchers representing IFDC, a staff member and a consultant hired by IFDC, spearheaded this initiative. When we refer to their actions we consider them IFDC actions as they were representing the broader organization.

[8] Since the research was completed, we were informed that this department was renamed the Agricultural Input Services Department and was moved from its placement under the National Food Reserve Agency to being directly under the control of the minister's office (Ayoola 2009).

Table 2. Process leading to the National Fertilizer Policy for Nigeria

1.	Representatives from IFDC and FFD spearhead the initiative, making up an informal fertilizer policy steering committee and creating a first draft. (Note: FFD can be considered the home of the steering committee.)
2.	The steering committee holds consultation with the National Fertilizer Technical Committee.
3.	The steering committee holds validation workshop with multiple stakeholder groups.
4.	The steering committee informally consults the Federal Executive Committee.
5.	The steering committee makes revisions.
6.	The steering committee presents the document before the National Council on Agriculture, which approves it.
7.	The minister of agriculture signs the policy.

Based on the results from Net-Map analysis and theory, the role that research information played in the fertilizer policy's formulation defines a process that is captured well by a number of theoretical models: (1) the "iterative" and "policy paradigm" models, as well as (2) the "enlightenment" and "social network" models (see Section 2). Among the first group, research-based information fed into the process iteratively over time as more knowledge was accumulated and as the demand for such information rose among policymakers as policy paradigms shifted. In the case of fertilizer, an overall policy paradigm shifted in favor of greater market liberalization and democratic principles; combined with a fast-approaching Africa-wide Fertilizer Summit in Abuja, the policy shift proved important in influencing the strong political demand for a comprehensive fertilizer policy in Nigeria. In addition, looking at the specific elements of the policy, the development of a strong advocacy coalition among individual technocrats, researchers, external actors (donors), and civil society played a role in the policy's drafting. Local government technocrats and researchers were repeatedly hired by donors directly or indirectly through an external development partner such as IFDC to review and prepare position papers on the fertilizer reform challenges facing Nigeria. As a group, they shared similar "core beliefs" and perspectives on the future direction needed for fertilizer policy reform in Nigeria. Many of the people in this network, and especially within the government, would serve as key advocates and champions in the policy process, seeing to it that the policy was ultimately formulated and adopted.

The Net-Maps

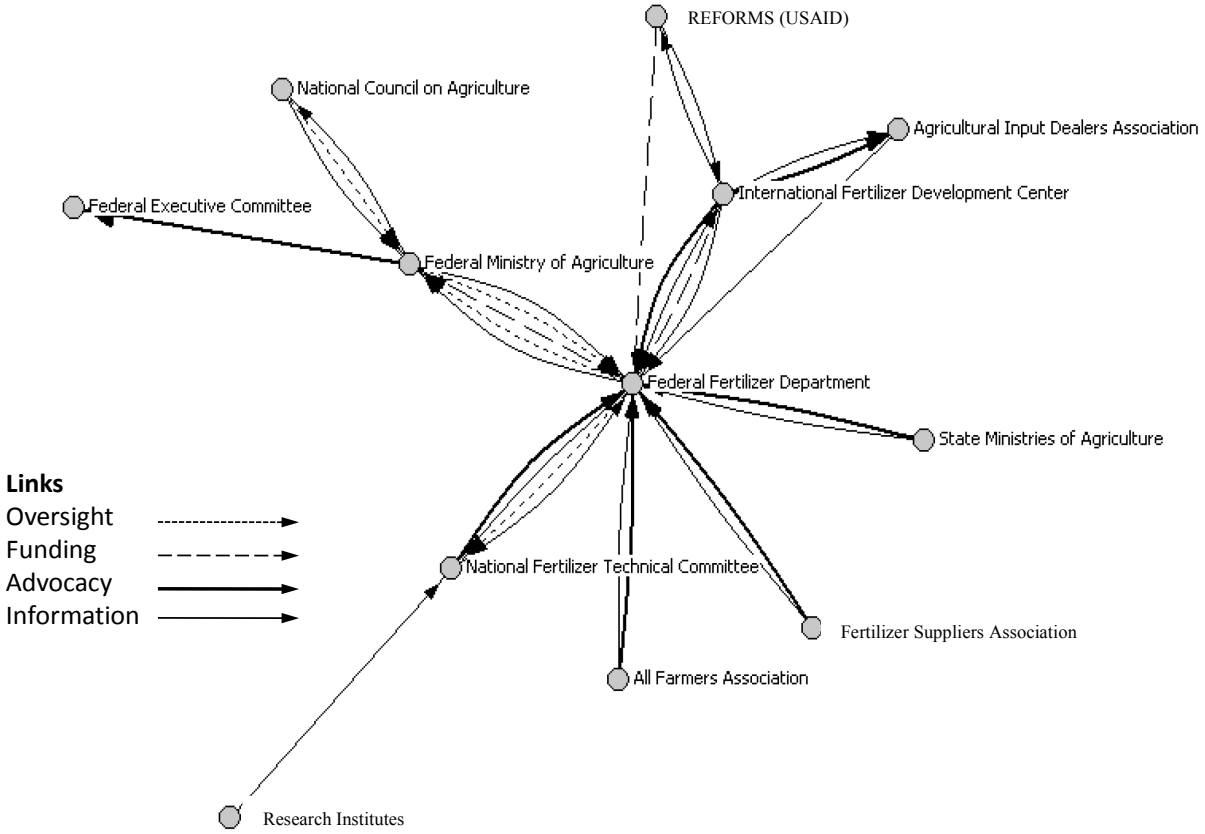
Based on the interviews, interview partners identified 13 key actors that were involved in the in the policy formulation process (see Figure 1). The main drivers of the process were identified as representatives from IFDC and FFD. The process was initiated by and almost exclusively funded through IFDC. The funding source for IFDC was via its Marketing Inputs Regionally project funded by the Netherlands. USAID also provided funding via its program with Development Alternatives International in Nigeria, referred to as the Restructured Economic Framework for Openness, Reform, and Macroeconomic Stability (REFORMS).

In spite of IFDC's major role in the process, most respondents overwhelmingly saw FFD as the center or hub of the process. They saw FFD as the "home" of the policy document. Moreover, in the aggregated map derived from the Net-Map tool (see Figure 1), FFD is shown as the hub of activity through which all links pass.

Research organizations, consisting of all the national agricultural research institutes (there is one for each separate zone of Nigeria, and they all sit on the National Fertilizer Technical Committee [NFTC]), were connected to the hub of the network—FFD—via NFTC. Although IFDC also engages in research, its role as an international development practitioner or as an international development partner

(broadly referring to any international governmental and nongovernmental development organization that actively helps to implement a development program in partnership with other partners in the country) was more prominent. In Figure 1, we can see that IFDC's place in the network was consistent with that characterization, as it is connected to other research institutions only through FFD. Its other connections include the REFORMS program (as another international development partner) and the Agricultural Input Dealers Association, which IFDC also helped to establish in the country.

Figure 1. Aggregated Net-Map



Although IFDC wanted to engage fully in the policy process, it also wanted to ensure the government's full ownership of the process and outcomes. The appearance of a policy campaign being driven by an outside actor would have decreased the federal government's open support of the policy, so IFDC's decision to avoid attention may have contributed to the success of the initiative.

In Figure 2, the actors differ in size according to their perceived influence on the drafting process—that is, influence over whether or not the draft was completed and the content it included. Here we see that FFD once again dominates the map as the most influential actor, according to the respondents. IFDC was seen as more influential than the entire NFTC body, which was the point of convergence for all other research inputs.

Figure 2. Actor size by influence score

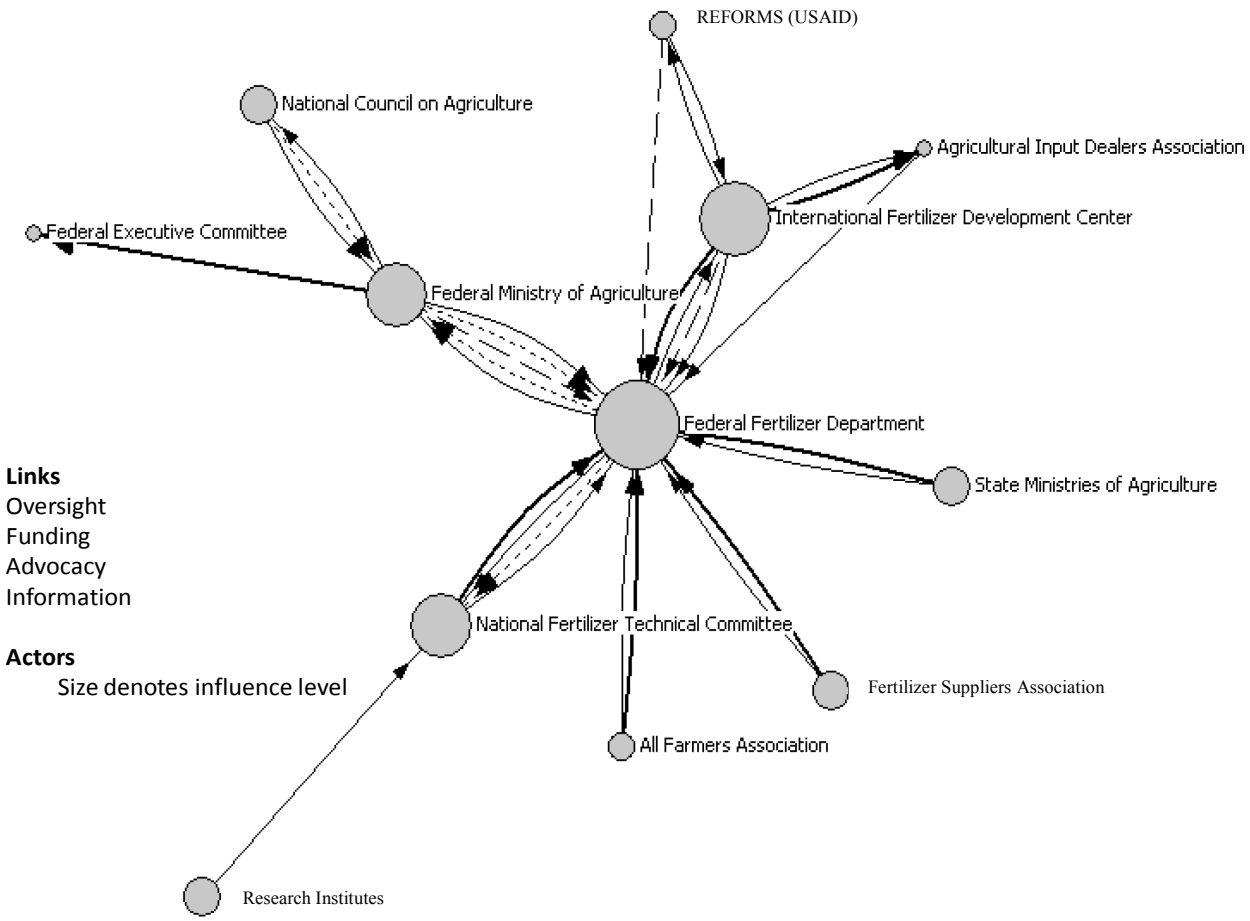


Figure 3 illustrates the flows of advocacy and information among actors. FFD once again appears as the primary hub of the network; with a high degree of betweenness, it served as the bridge between many of the actors. In other words, its removal would have isolated many of the other actors from each other. In particular, it served as a key boundary linking together the three main hubs: government actors (the Federal Ministry of Agriculture, the National Council on Agriculture, and the Federal Executive Committee); the researchers (NFTC and the research institutes); and the development partners (IFDC and REFORMS).

Taking the perspective that research-based information is broadly defined as the accumulated experience of a researcher, we determined the paths through which research-based information was able to flow as the information outlinks from researchers. FFD was the conduit for research-based information to flow into the policy document.

Figure 3. Information and advocacy flows

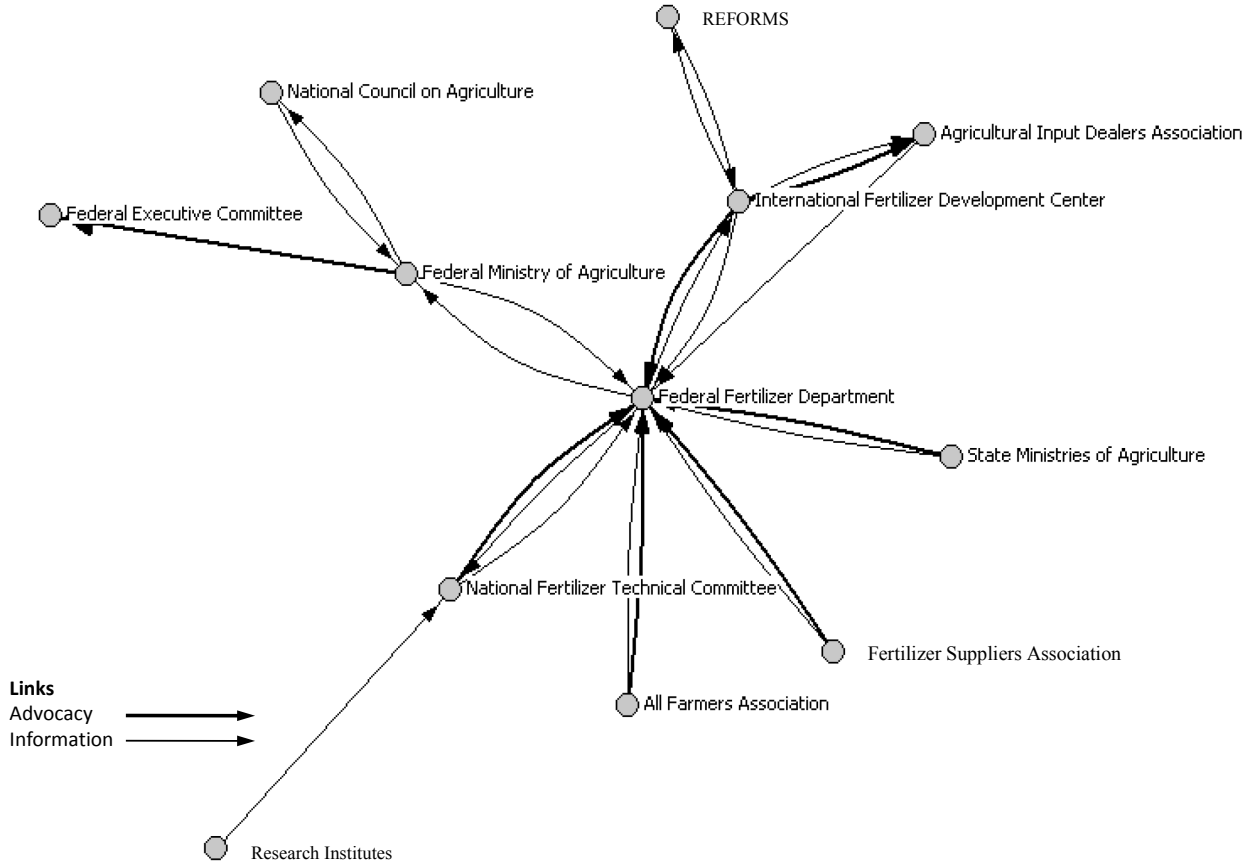
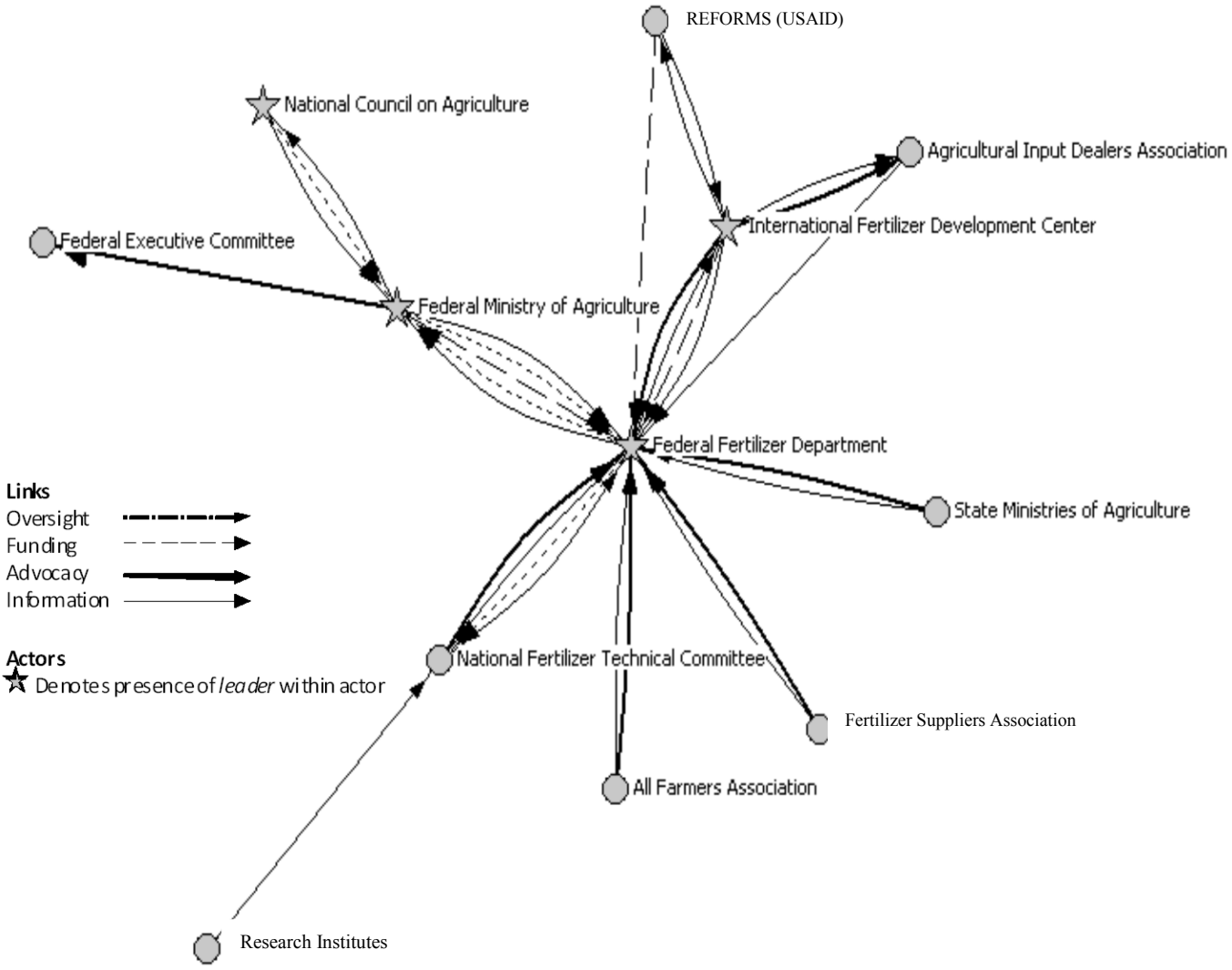


Figure 4. Leaders in the policy process



An aspect of the process that emerged in discussions as critical to the successful completion of the policy document was the presence of "champions" within some key organizations and departments. Three people essentially drove the drafting process, dealing with coordination of information and stakeholders, advocating to government bodies, and writing the actual document. However, the policy would not have been drafted without the support of key political figures. For instance, according to the respondents, the president (seated on the National Council on Agriculture) and the minister of agriculture (head of the Federal Ministry of Agriculture and Rural Development) publicly supported the development of a fertilizer policy.

Some respondents thought that the support from the leadership was mixed. Whereas positive support was provided in some cases, some respondents thought that efforts were also made to stall the policy development process and to propagate internal roadblocks. Similarly, respondents pointed out that high-level officials from the Ministry tended to be supportive of the policy drafting but did not necessarily facilitate the follow-through to implementation. Public support of the president and the minister of agriculture, according to some participants, may have been the balancing factor. Figure 4 shows which actors housed one or more particularly influential leader.

In spite of the "implementation strategy," which was developed concurrently with the fertilizer policy and outlined responsibilities for various actors and a timeline for completion, very little of the policy has actually been implemented. The director of FFD states that the department stands behind the policy's broad principles for privatization but recently said that he is "aware of the need to disengage gradually in order to protect the poor and the vulnerable farmers from the shock of full deregulation" (Aliyu 2009). The impact of the gradual stance is apparent; the extent to which the policy has been realized is extremely limited. Under existing policies, the government still procures fertilizer from the private sector and sells it to the states at a 25 percent discount (subsidy). The various states also add on additional subsidies (up to 40 percent) to the already federally subsidized fertilizer. In addition to federal procurement, several states directly procure fertilizer to be subsidized for sale within state lines (Babu 2009).

The poor implementation shows a disconnect between the process of feeding research-based information successfully into the policy process and dialogue, on the one hand, and having an impact on the ground (meaning changes on the farm level), on the other. As raised by some of those interviewed, the policy document was never sent to the National Assembly to be funded. Despite the existence of a logical document and an accompanying implementation plan, three years later very little of the policy has come to fruition (compared with the progress that should have been made according to the implementation plan).

One aspect of the policy that has been implemented is vouchers. IFDC has fully supported vouchers in Nigeria and in a variety of other countries throughout the world. IFDC's executive director discussed the program with the minister of agriculture and water resources, and it was agreed that testing alternative approaches to reaching farmers for increasing fertilizer use was needed (Waziri 2009). IFDC is also fully involved in the actual implementation of the voucher program pilot, and presumably has assisted in fund-raising as well. Therefore, it is unclear whether the pilot activity is directly linked to the broader adoption of the fertilizer policy or whether it would have still been implemented in its absence. And given the evidence that the National Fertilizer Policy is not being funded and implemented as a whole, one wonders about the holdup and if the policy will indeed come to fruition or not, a subject beyond the scope of this paper.

4. DISCUSSION AND CONCLUSION

How research can feed into the policy process in developing countries in general, and in Nigeria more specifically, is not well understood. Yet that understanding is a critical part of doing effective policy research. A key challenge for research organizations in Nigeria, therefore, is to improve their understanding of the policy process, their interactions with policymakers, what information they will use and in what form, and with whom they should establish interactions. In this study, we sought to explore these questions and enable a research unit, such as IFPRI's Nigerian country program, to more effectively link its research results with policymaking in Nigeria. More specifically, we examined what actor groups and conditions helped promote a more prominent role for research in contributing to Nigeria's National Fertilizer Policy. Based on our analysis using the Net-Map approach, we summarize some of the key findings and implications for generating high-impact policy research.

Discussion of Key Findings

A number of key findings from the Net-Map analysis shed light on the nature of research and policy linkages that influenced the outcome of the fertilizer policy process in Nigeria. First, the existence of a strong political will to see to it that a policy was successfully formulated and adopted was essential, which was aided by the presence of an advocacy coalition. Second, government-based champions proved to be critical players throughout the process. Third, existing strong ties between researchers, who maintained an acceptably low profile, and government technocrats helped to maintain credibility and government ownership during the formulation of the policy. Fourth, but not least important, the final adoption of the fertilizer policy by the Federal Ministry of Agriculture and Water Resources in 2006 has yet to translate into any substantial policy action.

Among the actors involved, researchers from IFDC played a significant role in driving the process and in defining the initial content and scope. Additionally, they advocated for the policy in person and through intermediaries while providing technical and evidence-based input into the policy drafting process itself. Their active involvement in simultaneously implementing the Africa Fertilizer Summit, hosted by Nigeria in cooperation with NEPAD, helped captivate and elevate the interest of Nigerian policymakers and civil servants to support the development of a comprehensive national fertilizer policy prior to the summit. It was indeed timely, as policymakers were grappling with the question of how to sustainably expand fertilizer use in Africa. Therefore, the relevance and demand for a comprehensive policy remained high on the agenda of policymakers.

In the years leading up to the fertilizer policy initiative, USAID and other donors, often in partnership with IFDC, hired many Nigerian technocrats to undertake research on fertilizer policy, feeding the development of an *advocacy coalition* of key individuals throughout government and research institutions with similar perspectives in this issue (see Table 1). This allowed support for fertilizer reform to develop in an iterative manner, and from the inside; these technocrats in favor of reform have been embedded within various government bodies even as they worked as consultants for USAID and others.

In addition to the aforementioned advocacy coalition, champions of the process resided within the government. Though also a part of the advocacy coalition, they did not simply support the concept of reform, but actively drove the process forward and did the necessary work to support it. One such champion was based within the critical government body—FFD.

The strong relationship between IFDC and the government actors, particularly the FFD champion, supported the success of the initiative. IFDC was seen as credible by the government and thus was relied on for research-based input, but it also maintained an acceptably low profile to ensure full government ownership of the process

Often researchers imagine their messages to be neutral. It is illuminating to consider that, just as policymakers' use of research is determined by their goals and the context within which they operate, research results themselves are not neutral or without their own perspective. The topic, scope, and interpretation of results of research are often determined by a particular perspective or even ideology of a

researcher and donor on a project. In this study, the researchers' views fit very well into the current paradigm of mainstream development thinking. Promoting privatization of fertilizer procurement and distribution—but also accepting the need for oversight of the process and pro-poor protection—is a currently accepted perspective. A few decades ago, mainstream development practitioners would not have supported voucher programs, but now vouchers are acceptable and thus research and other initiatives have been funded to examine and promote this practice. Thus, the success of the initiative could also be attributed to the current trends in development thinking.

Finally, it is important to note that the goals of an initiative will dictate the scope of what can be accomplished. In the example of drafting the fertilizer policy, representatives of IFDC explicitly stated the goal as developing a cohesive policy document to guide government action, which was accomplished. However, the impact on the activities of the government, related businesses, and the farmers themselves appears to be quite limited. At the time of research, we could not discern that Nigeria had taken much concrete action toward implementation. The action plan, developed in tandem with the policy document to guide its implementation, had not been followed in the three years following the passing of the policy.

In spite of the lack of concrete policy actions in line with the fertilizer policy document, if policy change is viewed as an *iterative* process, it can be surmised that since the fertilizer policy drafting contributed substantively to the policy dialogue, this could have tangible policy impacts in the future.

Implications for High-Impact Policy Research

We began this study with the assumption that policy researchers want their work to have an impact on the policy landscapes they study. However, the dynamic between research and policy actors is complex and takes place in a complex context. Implicitly or overtly, policy researchers walk a fine line between advocacy and science. How they choose to walk that line may be influenced by their personal beliefs and the stance of the organization with which they are associated. And their beliefs and affiliations may influence the way in which they interact with policymakers and the ultimate goals of their interactions. Given this reality, how can researchers maximize the effectiveness of their research? We offer some suggestions based on both the literature review and the results of our Net-Map analysis.

First, for an initiative to change policy or otherwise gain official government support, it must have champions fully invested in the outcomes who will drive the process forward. In this case study, the commitment of one governmental technocrat and nongovernmental lead researchers who advocated throughout their own networks and actually wrote the policy document contributed to its final adoption.

A second requirement is the engagement of key stakeholders. Even though many of the stakeholders interviewed did not appear to have had substantive input into the technicalities of the policy document, engaging them throughout the process seemed to have appeased them. On the government side, engagement through internal advocacy by the technocrat mentioned earlier helped gain the support of key high-level political figures, and appeared to engage others who otherwise would have preferred to block the initiative. Returning to the argument of Sabatier and Jenkins-Smith (1993), researchers can view themselves as part of an advocacy coalition through which they can engage in an ongoing policy discourse with policymakers and other stakeholders, learning from and contributing to a deeper and more comprehensive understanding of the knowledge base required to contribute toward current policy challenges.

Finally, for an external research organization such as IFPRI, we recommend that it not only channel policy briefs to political decisionmakers, but also become more aware of their interests and inherent policy processes and the political context within which they operate, and establish strong ties with key stakeholders and champions linked with the policy process. Guided by that awareness, researchers can take a longer-term view on policy impact as we consider that we can be contributing to policy perspectives in an iterative manner. One effective way to accomplish this is to establish strong working relationships with local research partners who are highly respected by policymakers and often invited to contribute to the policy process. Another is to establish strong ties with the governmental or nongovernmental bodies that often serve as a boundary between the research and policy process (as FFD did in this case study).

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